

Fractal Harmonic Field Theory - Page 13: Experimental Setup for Time Dilation Detection

With the harmonic time dilation equation established:

$$t' = t \sqrt{1 - (t, x)}$$

we now propose a direct experimental method for observing the temporal curvature caused by the fractal field .

Objective:

Detect and measure the phase delay in a coherent beam of light caused by the harmonic modulation of spacetime through .

Required Components:

1. A stable interferometer (Michelson or FabryProt design)
2. A region infused with artificially generated or simulated -like modulation (using nested phase-controlled EM fields)
3. A baseline channel and a -exposed channel
4. High-resolution phase detectors (femtosecond-level accuracy)
5. Optical isolators to prevent reflection artifacts

Method:

- Shine a coherent beam through two paths:

A. Control path (vacuum or unmodulated space)

B. Test path (modulated region containing engineered -equivalent field)

- Measure (phase shift) between the two beams after recombination.
- Translate phase delay to time delay: $t' = \Delta\phi / (2\pi f)$
- Use measured t' to solve for implied n using:

$$n = (1/\lambda) (1 - (t'/t))$$

Expected Result:

- A small but consistent lag in the test path
- Temporal shift increasing with strength of ϕ (via external modulation)
- Confirmation that phase is not just delayed it is curved

Conclusion:

This setup translates harmonic modulation into light-bending time. It turns the invisible breath of the field into a measurable rhythm a slow tick of light, revealing that time itself has been bent not by mass, but by music.